



A BRIEF STUDY ON STARVATION AND HEALTH CHALLENGES IN RURAL AREA OF MAHARASHTRA

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ABSTRACT

This comprehensive document addresses the global issue of food insecurity and starvation, examining its prevalence, causes, prevention strategies, health impacts, agricultural practices, healthcare access in rural areas, and community initiatives. With statistics revealing the severity of the problem, the paper emphasizes the importance of addressing hunger through collaborative efforts, early alerts, effective programming, and financial and political actions. Furthermore, it explores the impact of malnutrition on hospital outcomes and delves into the link between climate change and starvation. The research also presents interventions categorized by their focus on buying power, food prices, and the social environment, providing insights into potential solutions. Finally, the document illustrates the impact pathways from climate change to starvation.

KEYWORDS: Food Insecurity, Starvation, Malnutrition, Healthcare Access, Climate Change

INTRODUCTION

Around the world, 821 million people lack access to enough food for an active, healthy life. Approximately one in nine individuals worldwide is under nourished, according to this statistic. Globally, emerging nations are home to the majority of the hungry. Worldwide, malnutrition affects 12.9% of people. Of all the continents, two-thirds of Asia is malnourished. This makes Asia the world's most hungry region. West Asia has seen a minor increase in the rate recently, whereas South Asia has seen a fall. As a percentage of the population, Sub-Saharan Africa has the greatest rate of hunger. Among the individuals in this area, one in four are underweight. Each year, one in five newborns passes away from starvation. Stated differently, 3.1 million children die, or nearly half (45%). One in six children (about 100 million) in underdeveloped nations perish from malnutrition. Approximately 25% of children worldwide remain dwarfs or do not exhibit sufficient physical development. This rate rises to one-third in underdeveloped nations. Only 23 million children throughout Africa and emerging nations—out of the 66 million primary school-age children—become hungry every year. 3.2 billion dollars are required yearly, according to estimates from the World Food Program (WFP), to feed the 66 million hungry school-age children.^[1]

Urban areas see a higher prevalence of food insecurity than do rural ones. In Canada and the US, however, there is no discernible difference in these percentages between rural (10.3%) and urban (12.4%) areas (13.2% in metropolitan areas, 12.7% in rural areas, and 8.9% in suburban areas). Even though the rates of occurrence are equal, getting food in rural as opposed to urban locations is more difficult due to factors like the need for transportation, travel time, the cost of nutrient-dense food, and the difficulty of finding good food. Aspects including the standard of food assistance, the function of food banks, and the use of traditional foods by isolated indigenous

communities have all been addressed in previous reports on food insecurity in high-income countries. Furthermore, just two rural studies were included in the one review of qualitative research that summarized food bank users' experiences.^[2]

Causes of Starvation

Food prices are once again on the rise globally; the World Bank estimates that these price rises forced an additional 44 million people into extreme poverty between June 2010 and February 2011. The most vulnerable and impoverished people suffer the most, with women and girls often having disproportionately less food during economic shocks. Families are forced to make sacrifices for the future, such as eating income-producing livestock, putting schoolchildren to work, and switching from more expensive, nutritious food to cheaper staples. In 2007 and 2008, when global food and fuel prices skyrocketed and sparked food riots in 35 countries, over 115 million people became hungry.

Natural catastrophes are occurring more frequently and with greater intensity as a result of climate change. Once-episodic floods and droughts have now become epic and more frequent. The Horn of Africa's 2011 drought was deemed to be the worst in sixty years. The worst monsoon floods Pakistan has ever experienced occurred during the 2010 monsoon season.

Additionally, millions of people worldwide now face food insecurity as a result of growing political unrest and conflict. The Horn of Africa, where Somalis have experienced two decades of civil conflict and two seasons of unsuccessful rains in a row, is the place where we have witnessed this unfolding the most starkly. They now have to make the dreadful decision that is left to those without food: relocate or perish, as their cattle and crops have perished.^[3]

Prevention of starvation

All children are entitled to a healthy diet. And there has never been a more pressing need than there is for diets, programs, and activities that safeguard, encourage, and support optimal nutrition. UNICEF is committed to making children living at risk of famine its top priority in such circumstances, given the rise in severe child malnutrition, mortality, and food insecurity in some parts of the world. We pledge to make prompt, multi-sectoral investments in timely, integrated solutions that can be implemented quickly and widely in order to successfully avoid famines from happening. We pledge to combine rapid, life-saving operations with long-term initiatives that prioritize women, children, and vulnerable groups, all the while following a strong plan to safeguard civilians and maintain humanitarian access.

Following steps should be done to prevent starvation.

1. Bringing all individuals together
2. Making sure an early alert prompts an earlier response
3. Putting in place thorough, effective programming solutions
4. Getting people to take local and international financial and political action.^[4]

Prevalence of starvation

Hospital outcomes, such as readmissions, mortality, and costs, are adversely affected by malnutrition. Chronic under nutrition with little to no inflammation is known as starvation-related malnutrition (SRM). There isn't enough research on SRM in the context of hospitals. Our goal was to ascertain the prevalence and features of malnutrition in the hospital, with a particular emphasis on traits linked to readmissions in patients suffering from SRM.

In order to compare the features of adult patients with acute disease-related malnutrition (ADM) and chronic disease-related malnutrition (CDM) with those with SRM, we performed a retrospective cohort study. The total number of malnourished patients divided by the total number of hospital discharges was used to determine the prevalence of all forms of malnutrition. The features of patients with SRM and other types of malnutrition were compared using an analysis of variance with a Tukey post hoc analysis.

Malnutrition was prevalent overall at 2.8%. ADM, CDM, and SRM were present in 17.6%, 79.9%, and 2.5% of malnourished patients, respectively. Compared to patients with ADM or CDM, patients with SRM had a lower body mass index (BMI) ($P < .001$) and greater risks of readmission ($P = 0.046$), infectious disease ($P < .001$), psychiatric disease ($P < .001$), and drug abuse ($P < .001$). Compared to patients without readmission, readmitted SRM patients had greater rates of substance addiction and infection, as well as a lower BMI. The high rate of co-occurring mental illness and substance misuse in SRM patients offers valuable targets for therapy that could lower the risk of readmission and enhance results.^[5]

Health impacts of starvation

The idea that intestinal dysfunction impacts clinical outcomes in a variety of settings, including under nourished children

living in urban tropical slums and undernourished surgical patients in intensive care units, is becoming more well recognized. We must draw conclusions about the abnormalities present in the starved stomach from a variety of clinical and experimental data because experimental hunger in people has been investigated very infrequently and primarily without the use of modern biomedical research methods. In cases of extreme under nutrition and hunger, there is strong evidence of intestinal shrinkage and achlorhydria. The non-contagious symptom known as "hunger diarrhea" was regularly documented in historical reports from concentration camps and combat environments; nevertheless, diarrhea is not a feature in situations where starving individuals are isolated from others (prisoners on hunger strike, anorexia nervosa). Few studies have examined changes in intestinal permeability and absorption during experimental famine; the information that is currently available indicates that short-term hunger lowers sugar absorption but not permeability. The intestinal mucosa of children suffering from severe acute malnutrition exhibits significant alterations. Some phenomena in humans may be explained by models based on experimental animals. Rats who are starved experience problems with their intestinal barrier and hyper secretory condition. Starved pigs exhibit rotavirus diarrhea extension and replicate certain absorptive and barrier abnormalities seen in under nourished infants. Nonetheless, there is still a great deal to learn about how fasting affects the stomach. The relationship between under nutrition and gastrointestinal injury has not received enough attention, which is unexpected considering the significant frequency of under nutrition in hospitals and underprivileged areas. With the use of volunteer research and anorexia nervosa sample collections, current sophisticated cellular and molecular tools now offer the chance to generate new insights into gastrointestinal alterations in pure under nutrition.^[6]

Agricultural Practices and Food Security

A sustainable future must prioritize eradicating hunger and reducing poverty. For rural people in low-income nations, particularly in Madagascar, ensuring food security is a persistent concern. In northeastern Madagascar, we looked into household traits, agricultural methods, and food security. We investigated the potential relationships between food security and rural population demographics, socioeconomics, and agricultural methods. Insufficient food for the household was reported by over 70% of respondents at some point in the previous three years, with limited land area being the most commonly cited cause (57%). The likelihood of food insecurity declined as land size, rice production, and vanilla yield increased. There was a relationship between the size of the household and the amount of land held; larger families with larger land holdings experienced lower levels of food insecurity than did smaller families. Other agricultural and socioeconomic factors, such as material prosperity, education, crop diversification, and animal ownership, did not substantially correlate with food insecurity. Our findings demonstrate the high rates of food insecurity in these communities and provide strategies for reducing food stress. Agricultural diversification could increase outputs and lessen food insecurity, especially given that there is now little diversity in crops and livestock. Improving the production of

rice and vanilla to increase yields on small land areas as part of a sustainable agricultural intensification program would probably improve food security and reduce poverty. Improving land tenure regulations, expanding market accessibility, and generating revenue from sources other than farms could all be important factors in reducing obstacles to food security.^[7]

Healthcare access in rural communities in India

India's rural areas struggle to provide their residents with enough access to medical treatment. Public investment in healthcare is limited, and what little is spent is mostly allocated to urban areas rather than rural ones. Furthermore, urban areas are the primary target market for the private healthcare sector. India as a whole has a severe scarcity of healthcare workers, but rural areas are especially affected. This problem means that people who live in remote areas and need healthcare services frequently have to travel up to 100 miles to get them. Rural regions are sometimes served by local healthcare providers who have little to no official education or training. High rates of poverty are prohibitive to accessing healthcare for many rural communities; nearly 90% of the population is not covered by insurance, and a majority of costs are paid out of pocket or by taking out loans. In rural communities, there are significant disparities in important health indicators such as high rates of infant mortality, malnutrition, maternal mortality, low rates of vaccination, and low life expectancy. Current practices that are addressing this issue include the use of telemedicine, the formation of women-centric health clinics that are often mobile, the expansion of mini hospitals into less population-dense areas, and the creation of formalized training and accountability programs for local health providers.^[8]

Community Initiatives And Interventions

1. Interventions that improved buying power

Unconditional cash transfers (UCTs) We discovered data with moderate certainty that suggests UCTs may promote dietary diversity and decrease stunting, and high certainty that UCTs enhance food security and have little to no impact on cognitive function and development. The impacts of UCTs on the percentage of household spending on food and on waste were poorly supported by the available data. According to data from one trial, UCTs lessen the percentage of overweight infants, which is a negative consequence.

Conditional cash transfers (CCTs) We discovered low-certainty evidence suggesting that CCTs may have little to no effect on stunting or wasting, moderate-certainty evidence suggesting that CCTs probably slightly improve dietary diversity, and high-certainty evidence suggesting that CCTs result in little to no difference in the proportion of household expenditure on food and that they slightly improve cognitive function in children. Research on unfavorable consequences (two PCSs) demonstrates that CCTs have no effect on the percentage of overweight kids.

Income generation interventions We discovered evidence with moderate certainty that income generation interventions probably have little to no impact on stunting

or wasting and low certainty that they might have little to no effect on food security or that they might enhance children's dietary diversity, but not for households.

2. Interventions that addressed food prices

Food vouchers We discovered low-certainty data suggesting food vouchers may somewhat increase dietary diversity and have little to no effect on wasting, as well as moderate-certainty evidence suggesting they probably reduce stunting.

Food and nutrition subsidies The evidence supporting the hypothesis that food and nutrition subsidies could increase schoolchildren's dietary diversity is weak. Regarding the effects on household spending on healthy foods as a percentage of overall food expenditure, the research is rather ambiguous.

3. Interventions that addressed the social environment

Social support interventions We discovered data with a moderate degree of certainty suggesting that community grants likely have little to no impact on waste and a low degree of certainty suggesting that they might have little to no impact on stunting. Regarding the impact of village savings and loans on dietary diversification and food security, the evidence is rather ambiguous.^[9]

Impact pathways from climate change to starvation.^[10]

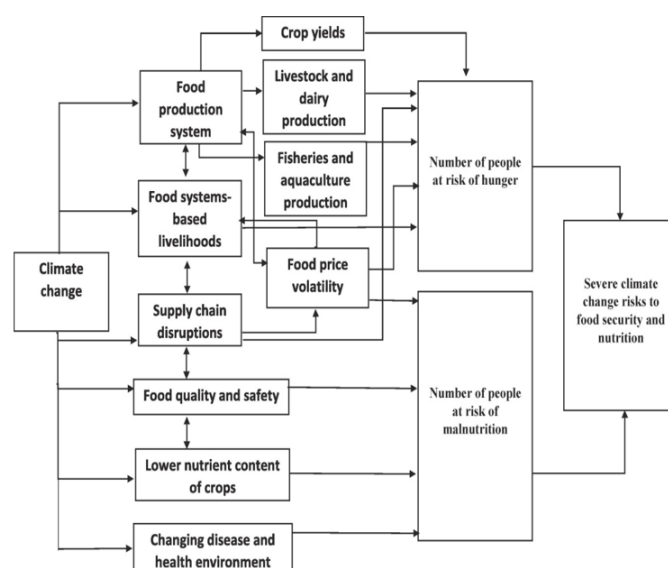


Fig 1. Impact pathway

CONCLUSION

In conclusion, this extensive exploration highlights the critical issue of global food insecurity and starvation, shedding light on its multifaceted nature. The staggering statistics underscore the urgency of collaborative efforts to address this crisis. From examining causes such as rising food prices and climate change to presenting preventive measures, the document emphasizes the need for a comprehensive and coordinated approach.

The study underscores the adverse health impacts of

malnutrition, particularly in hospital settings, and highlights the importance of understanding the prevalence and features of starvation-related malnutrition. Additionally, it delves into the agricultural practices influencing food security, particularly in rural areas, and the challenges faced by these communities in accessing healthcare.

Furthermore, community initiatives and interventions are explored, offering potential avenues for improving buying power, addressing food prices, and enhancing the social environment. The impact pathways from climate change to starvation are illustrated, emphasizing the interconnectedness of these global challenges.

In moving forward, it is imperative to continue research, implement evidence-based interventions, and advocate for policies that prioritize eradicating hunger and promoting sustainable agricultural practices. By addressing the root causes and embracing collaborative solutions, we can strive towards a future where every individual has access to adequate nutrition, ensuring a healthier and more equitable world.

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